

IN THE CLAIMS:

Claims 40-48, 50, 52-53, 57 and 69 were previously cancelled. Please now cancel claims 30, 35-39, 64-65 and 67-68 without prejudice and amend the claims as follows:

1. (Currently Amended) A system, comprising:
a deflector comprising
 a deflector body coupled by a towing cable to a vessel;
 a first actuator for varying the angle of attack of the deflector body; and
 a second actuator for varying the tilt angle of the deflector body, wherein
the first and second actuators are operated independently; and
at least one bridle connected to a seismic cable, the bridle including:
 an a first upper segment secured coupled to an a first upper connection point
point on the deflector body;—and
 a first lower segment coupled to a first lower connection point on the deflector body;
 a second upper segment coupled to a second upper connection point
transverse the first upper connection point on the deflector body;
 a second lower segment coupled to a second lower connection point
transverse the first upper connection point on the deflector body, wherein the
upper segment, lower segment and deflector body define a geometry
therebetween; wherein the second actuator adjusts the ratio of the lengths of the
first upper segment and the second upper segment to the lengths of the first
lower segment and the second lower segment for varying the tilt angle of the
deflector body adjusts the geometry to control the tilt angle of the deflector body.

2. (Currently Amended) The system of claim 1, wherein the second actuator
adjusts the length of the first upper segment and the second upper segment of the
bridle relative to the length of the first lower segment and the second lower segment of
the bridle.

3. (Original) The system of claim 1, wherein the upper and lower connection points each comprise at least one rotatable towpoint.
4. (Original) The system of claim 3, wherein the rotatable towpoints include lever arms, pulleys, or a combination thereof.
5. (Original) The system of claim 4, further comprising a further bridle segment extending between the rotatable towpoints.
6. (Original) The system of claim 5, wherein the further bridle segment is connected to the upper and lower bridle segments.
7. (Original) The system of claim 4, wherein the rotatable towpoints are pulleys, and wherein the bridle segments form a loop that extends around the pulleys.
8. (Currently Amended) The system of claim 5, wherein the first actuator, second actuator, or both repositions the bridle segment extending between the rotatable towpoints.
9. (Currently Amended) The system of claim 1, wherein the first actuator, second actuator, or both repositions the upper connection point, the lower connection point, or a combination thereof.
10. (Original) The system of claim 1, wherein the depth of the deflector body is controlled by varying the tilt angle of the deflector body being towed in water behind a vessel.
11. (Original) The system of claim 1, wherein the deflector body is selected from a wing deflector and a deflector door.

12. (Original) The system of claim 1, wherein the deflector body includes a buoyancy element.
13. (Original) The system of claim 1, wherein the deflector body is part of a deflector that is slightly negatively buoyant.
14. (Currently Amended) The system of claim 1, further comprising: a controller in communication with the first actuator, second actuator or both.
15. (Currently Amended) The system of claim 14, further comprising:
a sensor for measuring at least one parameter of the deflector and communicating the at least one parameter measurement to the controller, wherein the controller provides a command to the first actuator, second actuator or both to achieve at least one parameter setpoint.
16. (Original) The system of claim 15, wherein the at least one parameter is selected from depth of the deflector, motion of the deflector, orientation of the deflector, and combinations thereof.
17. (Original) The system of claim 15, wherein the controller is located within the deflector, the system further comprising a remotely located controller for providing the setpoint depth to the controller within the deflector.
18. (Original) The system of claim 15, wherein the remotely located controller is located on the vessel.
19. (Original) The system of claim 1, wherein the seismic cable is a lead-in.
20. (Original) The system of claim 1, wherein the seismic cable is a streamer.

21. (Original) The system of claim 1, wherein the deflector is not suspended from a separate flotation device.
22. (Original) The system of claim 1, wherein the deflector is independent from a separate flotation device.
23. (Original) The system of claim 22, wherein an upper end of the deflector has more buoyancy than the lower end of the deflector.
24. (Original) The system of claim 1, wherein the deflector comprises:
a weight element mounted on the lower end of the deflector body; and
a buoyancy element mounted on the upper end of the deflector body.
25. (Currently Amended) The system of claim 14, wherein the controller causes the first actuator, second actuator or both to vary the angle between the deflector and the cable so that the vertical component of lift from the deflector is substantially equal to the vertical component of gravity minus the vertical component of tension in the cable.
26. (Original) The system of claim 1, wherein the deflector body has a streamlined configuration with a longitudinal axis extending generally downwardly in use.
27. (Original) The system of claim 26, wherein the upper and lower segments of the bridle are connected to the deflector body on a line extending parallel to the longitudinal axis of the deflector body.
28. (Original) The system of claim 27, wherein the line is forward of the longitudinal axis.
29. (Original) The system of claim 27, wherein the upper and lower segments have a length that is adjustable.

30. (Cancelled)

31. (Original) The system of claim 30, wherein the deflector body is selected from a wing deflector and a deflector door.

32. (Original) The system of claim 1, further comprising: a pivot float attached to the cable forward of the deflector body.

33. (Original) The system of claim 32, wherein the pivot float serves as a pivot point from which the deflector pivots when the deflector depth is adjusted.

34. (Currently Amended) The system of claim 1, wherein the at least one first actuator and the second actuator includes at least two actuators that are load balanced.

35-48. (Cancelled)

49. (Currently Amended) A method for controlling the depth of a deflector under tow, comprising:

varying the tilt angle between the deflector and a cable, wherein a change in the tilt angle causes the deflector to change depth, wherein the deflector comprises:

providing a deflector body coupled by a towing cable to a vessel;

providing a bridle that defines first and second segments extending between a cable connection point and respective upper left and upper right rotatable towpoints on the deflector and third and fourth segments extending between the cable connection point and respective lower left and lower right rotatable towpoints on the deflector; and

adjusting the ratio of the lengths of the first and second segments to the lengths of the third and fourth segments to control the tilt angle between the deflector and the tow cable.

a first actuator for varying the angle of attack of the deflector body; and

a second actuator for varying the tilt angle of the deflector body, wherein the first and second actuators are operated independently; and

at least one bridle connected to a seismic cable, the bridle including an upper segment secured to an upper connection point on the deflector body, and a lower segment coupled to a lower connection point on the deflector body, wherein the upper segment, lower segment and deflector body define a geometry therebetween; and varying the tilt angle of the deflector body using the second actuator to adjust the geometry to control the tilt angle of the deflector body.

50. (Cancelled)

51. (Original) The method of claim 49, further comprising: remotely controlling the tilt angle to change the depth.

52-53 (Cancelled)

54. (Original) The method of claim 49, further comprising:
measuring the depth of the deflector; and
providing a command for the deflector to achieve a different depth.

55. (Original) The method of claim 49, further comprising:
adjusting a tow-point with respect to the deflector body between the forward and rearward edges thereof.

56. (Original) The method of claim 49, further comprising:
coupling a float to the cable upstream of the deflector, wherein a change in the tilt angle causes the deflector to pivot about the float.

57. (Cancelled)

58. (Previously Presented) The method of claim 49, wherein the upper and lower connection points are rotatable towpoints include comprising lever arms, pulleys, or a combination thereof.

59. (Original) The method of claim 58, further comprising: providing a further bridle segment extending between the upper and lower rotatable towpoints.

60. (Original) The method of claim 59, further comprising: rotating the rotatable towpoints to cause a change in the tilt angle of the deflector.

61. (Original) The method of claim 60, wherein the upper and lower rotatable towpoints are pulleys, and wherein the bridle segments form a loop that extends around the pulleys.

62. (Original) The method of claim 60, further comprising: repositioning the bridle segment extending between the at least two rotatable towpoints.

63. (Previously Presented) The method of claim 49, further comprising: repositioning the upper connection point, the lower connection point, or a combination thereof.

64-65. (Cancelled)

66. (Currently Amended) The method of claim 64, wherein further comprising controlling the angle of attack is-controlled by adjusting the ratio of the lengths of the first and third segments to the lengths of the second and fourth segments.

67-69. (Cancelled)

70. (Currently Amended) The system of claim 69-1, wherein the first actuator adjusts the ratio of the lengths of the first upper segment and the first lower segment to

the lengths of the second upper segment and second lower segment to control the angle of attack of the deflector body.